

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 13 January 2012 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the relationship of the control module with regard to placement and positioning in the washing appliance/dishwasher must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

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is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 14, 15-18, 22, 24, and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20030205954 to Oyler et al. (Oyler) in view of WIPO Patent Application Publication WO02/12610 A1 to Park et al. (Park).

Regarding claims 14 and 18, Oyler teaches a dishwasher with a control module in the door assembly (paragraph 1, ll. 1-3 and paragraph 47, ll. 7-9). Oyler does not teach that the control module has an interface that can be accessed for programming without dismantling parts of the dishwasher or that the control module contains an operating system that programs the control module.

Park teaches a washing machine (Fig. 4, generally) which includes an electronic controller for controlling washing in a body (not shown, page 6, ll. 20-22) wherein the device includes a circuit board (programmable control module, Fig. 4, part 20) connected for exchange of electrical signal with a controller and a connection port (interface, Fig. 4, part 30) on the circuit board for exchange of data related to washing with an external device (page 6, ll. 23-26) wherein Figure 4 clearly shows access to the connection port (interface, Fig. 4, part 30) from an exterior of the washing machine in order to update the washing technology of the washing machine (page 2, ll. 2-10 and 18-20) without have to dismantle parts of the washing machine.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the control module of Oyler with the controller and programmable control module of Park in order to update the washing technology of the dishwasher of Oyler without having to dismantle parts of the dishwasher.

Oyler in view of Park does not teach that the control module contains an operating system that programs the control module.

However, Park does teach that a computer may be used to upload a program to the control module (page, 7, ll. 14-23) and one of ordinary skill realizes that the computer contains an operating system which programs the control module.

One of ordinary skill in the art realizes that the computer could be fixed with the control module as a single component, wherein the court has held that the use of a one piece construction instead of the structure disclosed in the prior art would be merely a matter of obvious engineering choice. See MPEP 2144.04 V, B. See also *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965).

Therefore it would have been obvious to have modified the control module of Oyler in view of Park with the computer thereby being a single component, in order to achieve the predictable result of uploading a program through an operating system to the washing machine to thereby cleanse the items therein.

With regards to claims 15-17 and 22, since Oyler was modified by using the controller of Park as above in claim 14, the other teachings from Park with regards to the controller apply.

Regarding claim 15, Park also teaches that the connection port (Fig. 4, part 30) includes a plurality of pins (contacts, Fig. 4, part 33) which is a type of plug connection.

Regarding claim 16, Park teaches an embodiment of the circuit board (programmable control module, Fig. 8, part 20) connected to a radio transceiver (interface, Fig. 8, part 72) which communicates with an external radio transceiver (Fig. 8, part 71) through the use of UV communication (page 14, ll. 10-14) a type of wireless

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radio connection wherein one of ordinary skill in the art realizes that said device must include some form of memory means in order to retain and execute the programmed cycle.

Regarding claim 17, Park teaches that the programmable control module is a circuit board (Fig. 4, part 20) which one of ordinary skill in the art understands to include electronic components and furthermore Park anticipates the possibility of shorting out of electronic components thereby preferring to use a structure that inhibits the flow of water to the electronic components (page 8, ll. 25-29). With regards to the memory, Park teaches that a program may be uploaded to the controller and then said program may be executed (page 7, ll. 14-23), one of ordinary skill realizes that there controller therefore must have some way of storing capability (i.e. memory) in order for said process to take place.

Regarding claim 22, Park teaches that the circuit board (programmable control module, Fig. 4, part 20) is a part of the controller for controlling washing in a body (not shown, page 6, ll. 20-22) and therefore is connected to the washing machine. One of ordinary skill in the art at the time of the invention would understand that since the controller is a type of electronic controller it uses electricity in order to send/receive input and output, therefore the controller clearly has an electrical connection to the washing machine. Oyler in view of Park may not teach that a group plug is used to connect the control module to the appliance.

However, Park teaches wherein the laptop for updating the control module may use a group plug for quick connectivity (see Fig. 3b and Fig. 4).

Therefore it would have been obvious to modify the connectivity of the control module with the appliance using the group plug connector of Park for quick connectivity and while still achieving the predictable result of transmitting information from the control module to the appliance.

Regarding claim 24, Oyler in view of Park is relied upon as above in claim 18. Oyler in view of Park teach the accessible control module in a dishwasher that can be accessed from outside the dishwasher. Oyler in view of Park do not teach that the programmable control module is located in a bottom tray of the dishwasher.

However, the placement of the controller in a bottom tray of a dishwasher is a matter of obvious engineering choice. See MPEP 2144.04 VI, C; *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). The bottom trays are easily accessible and unobstructed by use of the dishwasher. Furthermore, even if the control module were placed in the bottom tray of the dishwasher, the movement of the control module would still achieve the predictable result of being able to be accessed from an exterior of the dishwasher in order to be updated. Therefore said movement of the control module would not have modified the operation of the control module.

Regarding claim 26, Oyler in view of Park is relied upon as above in claim 18. Oyler in view of Park does not teach that the programmable control module is located adjacent to the interface, and the programmable control module and the interface are located at a rear wall of a bottom tray of the washing appliance.

However, the placement of the controller adjacent to the interface and said controller at a rear wall of a bottom tray of a dishwasher is a rearrangement of parts that would have been a matter of obvious engineering choice for one of ordinary skill in the

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art at the time of the invention. See MPEP 2144.04 VI, C; *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). The bottom trays are easily accessible and unobstructed by use of the dishwasher. Furthermore, even if the control module were placed in the bottom tray of the dishwasher, the movement of the control module would still achieve the predictable result of being able to be accessed from an exterior of the dishwasher in order to be updated. Therefore said movement of the control module would not have modified the operation of the control module.

Regarding claims 28-29 and 30, Oyler teaches a dishwasher with a control module in the door assembly (paragraph 1, ll. 1-3 and paragraph 47, ll. 7-9). Oyler does not teach that the control module has an interface that can be accessed for programming without dismantling parts of the dishwasher or that the control module contains an operating system that programs the control module.

Park teaches a washing machine (Fig. 4, generally) which includes an electronic controller for controlling washing in a body (not shown, page 6, ll. 20-22) wherein the device includes a circuit board (programmable control module, Fig. 4, part 20) connected for exchange of electrical signal with a controller and a connection port (interface, Fig. 4, part 30) on the circuit board for exchange of data related to washing with an external device (page 6, ll. 23-26) wherein Figure 4 clearly shows access to the connection port (interface, Fig. 4, part 30) from an exterior of the washing machine in order to update the washing technology of the washing machine (page 2, ll. 2-10 and 18-20) without have to dismantle parts of the washing machine.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the control module of Oyler with the controller and

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programmable control module of Park in order to update the washing technology of the dishwasher of Oyler without having to dismantle parts of the dishwasher.

Oyler in view of Park does not teach that the control module contains an operating system that programs the control module.

However, Park does teach that a computer may be used to upload a program to the control module (page, 7, ll. 14-23) and one of ordinary skill realizes that the computer contains an operating system which programs the control module.

One of ordinary skill in the art realizes that the computer could be fixed with the control module as a single component, wherein the court has held that the use of a one piece construction instead of the structure disclosed in the prior art would be merely a matter of obvious engineering choice. See MPEP 2144.04 V, B. See also *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965).

Therefore it would have been obvious to have modified the control module of Oyler in view of Park with the computer thereby being a single component, in order to achieve the predictable result of uploading a program through an operating system to the washing machine to thereby cleanse the items therein.

Oyler in view of Park do not teach that the programmable control module is located adjacent to the interface, and the programmable control module and the interface are located at a rear wall of a bottom tray of the washing appliance.

However, the placement of the controller adjacent to the interface and said controller at a rear wall of a bottom tray of a dishwasher is a rearrangement of parts that would have been a matter of obvious engineering choice for one of ordinary skill in the art at the time of the invention. See MPEP 2144.04 VI, C; *In re Japikse*, 181 F.2d 1019,

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86 USPQ 70 (CCPA 1950). The bottom trays are easily accessible and unobstructed by use of the dishwasher. Furthermore, even if the control module were placed in the bottom tray of the dishwasher, the movement of the control module would still achieve the predictable result of being able to be accessed from an exterior of the dishwasher in order to be updated. Therefore said movement of the control module would not have modified the operation of the control module.

Regarding claim 31, Oyler teaches a dishwasher with a control module in the door assembly (paragraph 1, ll. 1-3 and paragraph 47, ll. 7-9). Oyler does not teach that the control module has an interface that can be accessed for programming without dismantling parts of the dishwasher or that the control module contains an operating system that programs the control module.

Park teaches a washing machine (Fig. 4, generally) which includes an electronic controller for controlling washing in a body (not shown, page 6, ll. 20-22) wherein the device includes a circuit board (programmable control module, Fig. 4, part 20) connected for exchange of electrical signal with a controller and a connection port (interface, Fig. 4, part 30) on the circuit board for exchange of data related to washing with an external device (page 6, ll. 23-26) wherein Figure 4 clearly shows access to the connection port (interface, Fig. 4, part 30) from an exterior of the washing machine in order to update the washing technology of the washing machine (page 2, ll. 2-10 and 18-20) without have to dismantle parts of the washing machine.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the control module of Oyler with the controller and

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programmable control module of Park in order to update the washing technology of the dishwasher of Oyler without having to dismantle parts of the dishwasher.

Oyler in view of Park does not teach that the control module contains an operating system that programs the control module.

However, Park does teach that a computer may be used to upload a program to the control module (page, 7, ll. 14-23) and one of ordinary skill realizes that the computer contains an operating system which programs the control module.

One of ordinary skill in the art realizes that the computer could be fixed with the control module as a single component, wherein the court has held that the use of a one piece construction instead of the structure disclosed in the prior art would be merely a matter of obvious engineering choice. See MPEP 2144.04 V, B. See also *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965).

Therefore it would have been obvious to have modified the control module of Oyler in view of Park with the computer thereby being a single component, in order to achieve the predictable result of uploading a program through an operating system to the washing machine to thereby cleanse the items therein.

Oyler in view of Park do not teach that the programmable control module is located adjacent to the interface, and the programmable control module and the interface are located at a rear wall of a bottom tray of the washing appliance.

However, the placement of the controller adjacent to the interface and said controller at a rear wall of a bottom tray of a dishwasher is a rearrangement of parts that would have been a matter of obvious engineering choice for one of ordinary skill in the art at the time of the invention. See MPEP 2144.04 VI, C; *In re Japikse*, 181 F.2d 1019,

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86 USPQ 70 (CCPA 1950). The bottom trays are easily accessible and unobstructed by use of the dishwasher. Furthermore, even if the control module were placed in the bottom tray of the dishwasher, the movement of the control module would still achieve the predictable result of being able to be accessed from an exterior of the dishwasher in order to be updated. Therefore said movement of the control module would not have modified the operation of the control module.

Whereby one of ordinary skill realizes that the interface may be accessed without a dismantling (see above modification) and a program may be sent for updating the controller (page 1, ll. 19-22 and page 6, ll. 20-22).

Regarding claim 32, Oyler in view of Park is relied upon as above in claim 31. One of ordinary skill in the art also realizes that the dishwasher of Oyler in view of Park may be updated with a new rinsing sequence as Park anticipates that the program may be updated (page 2, ll. 2-10 and 18-20).

6. Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20030205954 to Oyler et al. (Oyler) in view of WIPO Patent Application Publication WO02/12610 A1 to Park et al. (Park) further in view of U.S. Patent No. 5917690 to Anderson.

Regarding claim 19, Oyler in view of Park is relied upon as above in claim 18. Oyler in view of Park does not teach the use of a power supply input filter on the programmable control module (circuit board) for filtering higher frequencies.

Anderson teaches regulated current power supply (col. 1, ll. 11-12) wherein the power supply uses an input filter to reject internal noise (col. 2, ll. 52-56) wherein such

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internal noise may interfere with the signals sent among the various electrical components.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the program control module (circuit board) of Oyler in view of Park with the power supply input filter of Anderson in order to reject internal noise wherein such internal noise may interfere with the signals sent among the various electrical components of the washing machine.

With regards to finding an optimal predetermined range one of ordinary skill in the art through routine experimentation may have discovered such range. See MPEP 2144.05, Section II, Part A.

Regarding claim 25, Oyler in view of Park further in view of Anderson is relied upon as above in claim 19. Oyler in view of Park further in view of Anderson does not teach that wherein the power supply input filter is for filtering out frequencies in the range of 150kHz to 30MHz or from 30MHZ to 300MHz.

While Oyler in view of Park further in view of Anderson discloses the claimed invention except for 150kHz to 30MHz or from 30MHZ to 300MHz, it would have been obvious to one skilled in the art at the time of invention to use the claimed range of claim 25, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum workable ranges involves only routine skill in the art (see MPEP 2144.05, Section II, Part A).

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7. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20030205954 to Oyler et al. (Oyler) in view of WIPO Patent Application Publication WO02/12610 A1 to Park et al. (Park) further in view of U.S. Patent 5915851 to Wattrick et al. (Wattrick).

Regarding claim 20, Oyler in view of Park is relied upon as above in claim 18. Oyler in view of Park does not teach that the control module includes a primary power plug connector for the power supply of the control module and appliance. At the very least one of ordinary skill in the art would understand the control module of Oyler in view of Park to be hardwired in order to receive electricity.

Wattrick teaches a home appliance for water dispensing and draining (col.1, ll. 5-7) wherein the electrical plug connector registers with a compatible plug of the control module (col. 6, ll. 39-40).

Since Oyler in view of Park and Wattrick each teach means for connecting the control module and appliance to power it would have been obvious to one of ordinary skill in the art to replace the hard wired means with the plug connector means in order to achieve the predictable result of supplying power to the control module and appliance.

Regarding claim 21, the claim language for this claim is intended use. One of ordinary skill in the art could arrange the components or a connector wherein the interface and the power plug connector can be contacted by a complimentary combination plug connector. In this claim, Applicant has not per se limited the structure of the control module, but rather recited a structure of a combination plug connector that Applicant is not positively claiming. However, it would have been obvious to one of

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ordinary skill in the art to create a plug connector with ends that engage each other so that a communication/electrical path may be created.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 20030205954 to Oyler et al. (Oyler) in view of WIPO Patent Application Publication WO02/12610 A1 to Park et al. (Park) further in view of U.S. Patent Application Publication No. 20020131243 to Harrison et al. (Harrison).

Regarding claim 23, Oyler in view of Park is relied upon as above in claim 18. Oyler in view of Park teaches a washing machine (Park, Fig. 4, generally) which includes a controller for controlling washing in a body (Park, not shown, page 6, ll. 20-22) wherein the device includes a circuit board (Park, programmable control module, Fig. 4, part 20) on which one of ordinary skill in the art understands to include electronic components and furthermore Oyler in view of Park anticipates the possibility of shorting out of electronic components thereby preferring to use a structure that inhibits the flow of water to the electronic components (Park, page 8, ll. 25-29). Oyler in view Park does not teach that the washing machine has a complementarily constructed slot to receive the board, wherein a section at the edge of the board is preferably embodied as an electrical connection with a number of electrical contacts.

Harrison teaches a circuit board with electrical contacts on its edge (Fig. 1, part 11 and part 12) and slot connector assembly (paragraph 1, ll. 1-2) wherein a circuit board may be removably inserted into a slot connector for the purposes of mechanically and electrically coupling the circuit board to a motherboard (paragraph 15, ll. 1-6).

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the controller and programmable control module of Oyler in view Park with the circuit board with electrical contacts and slot connector assembly of Harrison in order to removably, mechanically, and electrically couple the circuit board to the controller.

Response to Arguments

9. Examiner has carefully and thoroughly considered Applicant's claim amendments and arguments in support of patentability, however, Examiner remains unconvinced.

Due to Applicant's amendments, a new grounds of rejection was necessitated.

Applicant has not presented any arguments as to the unobvious nature of the programmable control module containing an operating system for programming the control module.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN OSTERHOUT whose telephone number is (571)270-7379. The examiner can normally be reached on Monday-Thursday 8:30am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Joseph L. Perrin/
Primary Examiner, Art Unit 1711

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